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Application No.	:	09/681,790
Confirmation No.	:	1728
Appellant	:	DeVries
Title	:	A SYSTEM AND METHOD FOR SHARING MATCHED INTERESTS WITHOUT DISCLOSING NON-SHARED INTERESTS
Filed	:	June 5, 2001
TC/A.U.	:	3621
Examiner	:	BAYAT, Bradley B.
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Customer No.	:	27662

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AMENDED APPEAL BRIEF UNDER 37 CFR 41.37

I.   REAL PARTY IN INTEREST

The subject application is assigned to Microsoft Corporation, of Redmond Washington.
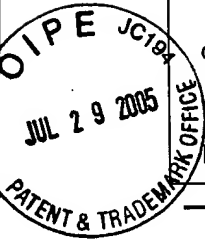
II.   RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

III.   STATUS OF CLAIMS

1. Claims 1 through 23 represent all claims currently pending in the application.
2. Claims 1 through 23 are rejected.
3. The rejection of claims 1-23 is hereby appealed.

IV.   STATUS OF AMENDMENTS

No amendments are currently pending.

V.   SUMMARY OF THE CLAIMED SUBJECT MATTER

The pending patent application includes three independent claims: claims 1, 10 and 17. A summary of the subject matter claimed in each independent claim is provided below:

a.   Subject Matter of Independent Claim 1:

In general, the subject matter of claim 1 relates to a system which operates to determine what interests are shared between two or more sets of interests in such a way as to prevent disclosure of any interests that are not shared to either set of interests.

For example, as illustrated in FIG. 3, the claimed system begins operation by "identifying" two or more separate sets of interests (reference 300). However, the system is only identifying the sets as a whole, rather than identifying the specific

interests in each set. In other words, the system does not know what interests are in each identified set (see page 13, paragraph [0042] of the specification).

Next, having identified the separate sets of interests, the claimed system begins a progressive turn-based *partial disclosure* of the interests in each set to the interests in every other set of interests (see reference 310 and 315 of FIG. 3). This progressive disclosure is *not* a disclosure of some set or subsets of whole interests, but a partial disclosure of *parts* of individual interests. Specifically, the term "*partially disclosing interests*" is clearly explained throughout the text of the specification, with specific examples of such partial disclosure being provided in a working example of the claimed system described on pages 21 through 25 in paragraphs [0066] through [0082] of the specification.

Next, a determination is made (reference 320 of FIG. 3) as to whether there is a partial match of the disclosed *portions* of any specific interests between any of the sets of interests. The progressive/partial disclosure of interests is then terminated with respect to any non-matched interests (reference 340 of FIG. 3) in any set of interests, thereby preventing further disclosure of non-shared interests of one set to any other set. However, in the case where there are one or more partial matches (reference 320 of FIG. 3), the claimed system continues the progressive comparison of interests with respect to any partially matched interests in any set of interests (see references showing loop of 325 to 335 to 310 to 315 to 320 in FIG. 3).

Finally, the claimed system completes operation by determining whether any progressive partial matches (reference 320 of FIG. 3) represent a complete match (reference 325 of FIG. 3). Further, as a result of the partial comparison that continues until the point where the comparison is either terminated (reference 340 of FIG. 3) or a complete match is identified (reference 325 of FIG. 3), all matched interests, and only the matched interests, are disclosed (reference 330 of FIG. 3) between only those sets where there are matched interests. In other words, at the end of the operation of the system of claim 1, a particular set of interests will know only those interests in any other

set that completely match a specific interest in that particular set of interests, with all other sets of interests having a matching interest also being aware of the specific matched interest in the particular set of interests.

For example, as disclosed in the working example of paragraphs [0079] to [0081] (pages 24 to 25 of the specification), where an *__individual interest__* in a *first set of interests* is represented by the number "178", that interest is first *partially disclosed* to a *second set of interests* by first disclosing an "8." If the second set of interests does not have an interest that ends with an "8" there is no partial match, and *the progressive comparison is terminated* for that particular individual interest. The progressive comparison will *not* then continue for that interest. On the other hand, if the second set has one or more interests that end with "8" then the progressive comparison will continue, with the next number "7," being disclosed to the second set. Again, the progressive comparison will continue at this point only where the second set has one or more interests that end in "78." In this example, it should be clear that the *__individual interest__* is "partially disclosed" in three separate stages, rather than simply fully disclosing interest "178" in a full disclosure. If at any time during this partial disclosure, such as for example, after the disclosure of "7," there is not a match with the partially disclosed interests from the second set, then the progressive comparison is terminated for that interest.

b.   **Subject Matter of Independent Claim 10:**

In general, the subject matter of claim 10 relates to a computer implemented process for determining whether any two unique entities share any interests in sets of interests held by each entity. This determination of shared interests is made in such a way as to prevent disclosure of non-shared interests between any of the entities.

For example, as illustrated in FIG. 3, the claimed process begins operation by providing a set of interests for each entity (reference 300 of FIG. 3). Next, these interests in each set of interests are encoded (reference 305 of FIG. 3) to prevent

unauthorized disclosure of the interests. For example, on page 14, paragraph [0044] of the specification, the claimed encoding of interests is described as a technique for preventing a determination of interests from partially disclosed interests. One such technique is to use a one-way hash to encode interests given a unique hash sequence that is assigned to each entity for a particular interest comparison session.

Once the interests are encoded, the claimed process continues by *partially disclosing* each encoded interest in each set of interests to the interests to each unique entity. This partial disclosure allows a progressive turn-based partial comparison of the interests in each set to the interests in every other set of interests (see reference 310 and 315 of FIG. 3). This progressive disclosure is *not* a disclosure of some set or subsets of whole interests, but a partial disclosure of *parts* of individual interests. For example, the term "*partially disclosing interests*" is clearly explained throughout the text of the specification, with specific examples of such partial disclosure being provided in a working example of the claimed system described on pages 21 through 25 in paragraphs [0066] through [0082] of the specification.

Next, following initiation of the partial disclosure of interests, the claimed process continues by performing a comparison (reference 315 of FIG. 3) of each partially disclosed encoded interest with the partially disclosed interests in each other set of interests. This comparison is performed to determine whether there is a partial match of interests between the partially disclosed interests of any unique entities (reference 315 of FIG. 3).

Next, the partial comparison of the encoded interests is continued for specific interests *only* for as long as there is a partial match of the specific interests between any unique entities (see references showing loop of 325 to 335 to 310 to 315 to 320 in FIG. 3). Consequently, since the comparison is continued *only* in the case of continued partial matches, it is inherently terminated for particular interests in the case where particular interests do not partially match interests in any other sets. This termination of

partial disclosures (reference 340 of FIG. 3) prevents further disclosure of non-shared interests of one set to any other set.

Finally, the claimed process completes operation by identifying interest matches between any unique entities through the continued automatic partial comparison of each encoded interest (see references showing loop of 325 to 335 to 310 to 315 to 320 in FIG. 3). Further, as a result of the partial comparison that continues until the point where the comparison is either terminated (reference 340 of FIG. 3) or a complete match is identified (reference 325 of FIG. 3), all matched interests, and only the matched interests, are disclosed (reference 330 of FIG. 3) between only those sets where there are matched interests. In other words, at the end of the operation of the process of claim 10, a particular interest held by other entities will be known as a shared interest only by those entities having a matching interest.

c.   Subject Matter of Independent Claim 17:

In general, the subject matter of claim 17 relates to a computer-readable medium having computer executable instructions for identifying common interests between at least two entities without using a third party. This determination of shared interests is made in such a way as to prevent disclosure of non-shared interests between any of the entities.

For example, as illustrated in FIG. 3, the claimed computer executable instructions begin by partially revealing (reference 310 of FIG. 3) each interest (reference 300 of FIG. 3) of each entity to each other entity. This partial revealing of interests is a progressive turn-based partial disclosure of the interests of each entity to the interests in every other entity (see reference 310). Further, this claimed partial revealing is *not* a disclosure of some set or subsets of whole interests, but a partial revealing or disclosure of *parts* of individual interests. For example, the term "*partially disclosing interests*" is clearly explained throughout the text of the specification, with specific examples of such partial disclosure being provided in a working example of the

claimed system described on pages 21 through 25 in paragraphs [0066] through [0082] of the specification.

Next, following initiation of the partial revealing of interests, the claimed process continues by performing a performing a comparison (reference 315 of FIG. 3) of each partially revealed interest with the partially revealed interests in each other entity. This comparison is performed to determine whether any of the partially revealed interests match any other partially revealed interests of any of the entities (reference 320 of FIG. 3).

Next, the claimed computer executable instructions continue to partially reveal (reference 310 of FIG. 3) more of each partially matched interest (reference 320 of FIG. 3) of each entity to each other entity having a corresponding partially matched interest. In combination with this continued partial revealing of interests, the claimed computer executable instructions continue the comparison and matching of partially revealed interests for specific interests *only* for as long as there is a partial match of the specific interests (see references showing loop of 325 to 335 to 310 to 315 to 320 in FIG. 3). Consequently, since the comparison is continued *only* in the case of continued partial matches, it is inherently terminated for particular interests in the case where particular interests do not partially match interests in any other entities. This termination of partial disclosures (reference 340 of FIG. 3) prevents further disclosure of non-shared interests of one entity to another.

Finally, the claimed computer executable instructions completes operation by determining whether the partially matched interests are common interests through the continued partial comparison of each interest (see references showing loop of 325 to 335 to 310 to 315 to 320 in FIG. 3). Further, as a result of the partial comparison that continues until the point where the comparison is either terminated (reference 340 of FIG. 3) or a complete match is identified (reference 325 of FIG. 3), all matched interests, and only the matched interests, are disclosed (reference 330 of FIG. 3) between only those entities having matched interests. In other words, at the end of the

operation of the computer executable instructions of claim 17, a particular shared interest will be known by all entities completely sharing that particular interest, while other non-shared interests held by the entities will not be known by any other entity.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

a. Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,112,181 by Shear et al. ("*Shear*") in view of U.S. Patent 5,926,812 by Hilsenrath et al. ("*Hilsenrath*").

b. Claims 10-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,112,181 by Shear et al. ("*Shear*") in view of U.S. Patent 5,926,812 by Hilsenrath et al. ("*Hilsenrath*").

c. Claims 17-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,112,181 by Shear et al. (hereinafter "*Shear*") in view of U.S. Patent 5,926,812 by Hilsenrath et al. (hereinafter "*Hilsenrath*").

VII. ARGUMENT

a. __Rejection of Claims 1-9 under 35 U.S.C. §103(a):__

Independent claim 1 was rejected under 35 U.S.C. §103(a) based on the rationale that *Shear* discloses the elements of claim 1 with the exception of "continuing the progressive comparison for specific interests with respect to each set of interests wherein the specific interest do partially match any interests." The Final Office Action then suggests that this claimed element is disclosed by *Hilsenrath*. The Final Office Action then rejects each of dependent claims, e.g., claims 2-9 based on the proposed *Shear / Hilsenrath* combination.

Further, in the Examiners *"Response to Arguments"* presented in the Final Office Action dated June 2, 2004, the Examiner first characterizes the Appellant's arguments with respect to the rejection of claim 1, and suggests that those arguments are not persuasive.

In particular, the Final Office Action first suggests that the Appellant argues that "neither [the ***Hilsenrath*** nor ***Shear***] reference teaches a progressive comparison of the interest wherein upon analyzing of certain matches the ***comparison is terminated and then continuing the progressive matching*** (applicant's response pages 8-13)" (emphasis added).

The Final Office Action then explains that "Shear provides for a comprehensive system which can provide for matching for "***value chains***" wherein match rule sets can be provided using artificial intelligence or smart agents to carry out applicant's features (column 15-20)." The Final Office Action then suggests that "Hilsenrath also teaches that the process of matching entries is carried out until the desired number is obtained (column 11). Note that the term "value chains" was used for the first time in the Final Office Action by the Examiner in support of his continued rejection of the claimed subject matter over the Appellant's arguments.

Consequently, in response to the Final Office Action, which cited the term "value chains" in support of the Examiners arguments, Applicants cited an excerpt of the testimony of one of the named inventors identified in the ***Shear*** patent reference, Mr. Victor H. Shear, which describes the term "***value chain***" in a manner that is wholly inconsistent with the interpretation offered by the Examiner. This testimony was presented by Mr. Shear before the United States Senate Judiciary Committee on April 3, 2001, at a hearing entitled "Online Entertainment and Copyright Law: Coming Soon to a Digital Device Near You." In addition, a summary of this testimony was published as a United States government publication available to the public via the official website of the U.S. Senate Judiciary Committee at the following address: http://judiciary.senate.gov/oldsite/te040301vs.htm.

As noted above, Appellant cited this official U.S. government publication in response to the final Office Action, prior to the filing of the Notice of Appeal. In addition to citing the particular document and providing a link to the location of that document, the Appellant provided the pertinent excerpts from the cited document in the response to the Final Office Action (prior to filing the Notice of Appeal). Further, it should be noted that this evidence was cited for the first time after the Final Office Action since it only became relevant in the Final Office Action as a result of the Examiner's definition of the term "value chain" in defense of his arguments. A hardcopy of the cited reference was then provided as "Exhibit A" as an attachment to the Appeal Brief filed April 4, 2005.

In the Notification of Non-Compliant Appeal Brief dated June 24, 2005, the Examiner states that:

> "Appellant has failed to comply with 37 CFR §41.33(c). Evidence filed (exhibit A) after the date of filing of a notice of appeal will not be admitted. Appellant is advised to remove all inadmissible evidence and any reference thereto."

First, it should be noted that in contrast to the position advanced by the Examiner, 37 CFR §41.33(c) does *not* apply to *evidence* offered in support of an Appeal Brief. In fact, 37 CFR §41.33(c) is intended to prevent *amendments* from being entered after the Notice of Appeal. The subject evidence is not an amendment. Therefore, its entry is not precluded by 37 CFR §41.33(c).

Further, as noted above, Appellant introduced the evidence contained in the testimony presented by Mr. Shear before the United States Senate Judiciary Committee on April 3, 2001, in response to the Final Office Action, prior to filing the Notice of Appeal. This is especially relevant since the Examiner never used the term "value chains" in any argument prior to the Final Office Action. Consequently, the evidence was not relevant until after the Final Office Action because the term "value chains" was

not introduced until the Final Office Action. Therefore, Appellant did not introduce the evidence prior to the Final Office Action as there was no reason for any evidence contradicting the Examiner's interpretation of the term "value chains" prior to Appellant's response to the Final Office Action.

Further, the interpretation of the limitations of the ***Shear*** patent reference offered by the Examiner with respect to the term "value chains" is wholly ***inconsistent*** with the interpretation provided by the first named inventor of the ***Shear*** patent reference in his testimony before the United States Senate Judiciary Committee. In fact, in view of the following discussion, it should be clear that interpreting the term "value chains" in a manner consistent with the interpretation offered by the first named inventor of the ***Shear*** patent reference provides evidence that is sufficient to overcome ***all*** of the rejections advanced by the Examiner in the Final Office Action.

Consequently, in view of the preceding discussion, the subject evidence is admissible under 37 CFR §41.33(c), it is also admissible under 37 CFR §41.33(d)(1). Therefore, in contrast to the position advanced by the Examiner in the Notification of Non-Compliant Appeal Brief dated June 24, 2005, Appellant respectfully suggests that the subject evidence is admissible, and, as such, it is included below in Section IX of this Appeal Brief in the Section entitled "Evidence Appendix." Further, as this evidence is relevant to the discussion of the rejection of claim 1, it is discussed in the following paragraphs.

Specifically, in the rejection of Claim 1, the Final Office Action suggests that "Shear provides for a comprehensive system which can provide for ***matching for value chains wherein match rule sets can be provided*** using artificial intelligence or smart agents to carry out applicant's features (column 15-20)" (emphasis added). It should be noted that this argument is offered in support of the position of the Final Office Action that the Appellant's claimed "progressive comparison" is disclosed by the ***Shear*** reference. In fact, the only time that the term "matching for value chains" is mentioned in the ***Shear*** reference, is in col. 16, lines 1-7, as one of the "Advantageous Features

and Characteristics" of the invention described by **Shear**. The context of that cited text is provided below:

> "Enables ***matching for value chains*** where ***the matching is against a plurality of co-participating value chain parties requirements*** and/or profiles against match opportunities, and/or matching by matches comprised of match input and/or aggregation of ***match rule sets of providers*** used to 'dock' with one or more user needs, interests, requirements match sets." (emphasis added)

In response, the Appellant respectfully suggest that the "matching of value chains" allegedly disclosed by the **Shear** reference clearly has nothing to do with the Appellant's "progressive comparison." In particular, it should be noted that the term "value chain" is not specifically defined by the *Shear* reference. However, this term, as commonly used in the typical business environment is defined to mean a high-level model of how businesses receive raw materials as input, add value to the raw materials through various processes, and sell finished products to customers. This is a very well known concept that is taught in conventional business schools, and as such, is well known to those skilled in the art.

Further, as noted above, one of the named inventors identified in the **Shear** patent reference, Mr. Victor H. Shear, described the term "value chain" in his testimony before the United States Senate Judiciary Committee on April 3, 2001. A summary of this testimony is available online at http://judiciary.senate.gov/oldsite/te040301vs.htm. Further, a hardcopy of this document is provided herewith in Section IX of this Appeal Brief in the Section entitled "EVIDENCE APPENDIX." In this testimony, Mr. Shear explains the following:

> "The architecture InterTrust has developed supports ***<u>value chain</u> relationships based on traditional commercial principles*** – we call this digital enabling of value chains 'chain of handling and control'. ***This means that each actor in the value chain is able to create the rules it***

wishes to apply to the material in question within the scope of authority granted to the participant by the previous or governing actors in the value chain. A publisher could establish the commercial terms for a work within the authority granted by the author; the distributor could then set rules within the scope of authority granted by the publisher and so on through the value chain, all in accordance with law and accepted practice." (emphasis added). (See page 5, lines 14-22 of testimony provided as an evidentiary attachment in Section IX of this Appeal Brief).

Clearly, in view of this testimony, in the context of the **Shear** patent reference, the aforementioned "value chains" do not represent "progressive comparisons" of individual partially disclosed interests, as maintained by the Examiner. In fact, it should be clear that in the context of the **Shear** patent reference, "value chains" are used in matching operations with respect to particular "rights" or "rules" defined by value chain participants.

For example, see claim 23 of the **Shear** patent reference which recites the following:

"The method of claim 1 wherein said sending to the user step the associated rights management information at least in part governs **at least one value chain right.**" (emphasis added)

Similarly, claim 65 of the **Shear** patent reference recites the following:

"The method of claim 48 wherein **said rules and controls include at least one value chain rule and control.**" (emphasis added)

Similarly, claim 107 of the **Shear** patent reference recites the following:

> "The method of claim 91 wherein said **rules and controls govern at least one value chain right**." (emphasis added)

Clearly, the **Shear** patent reference not only discloses, but **claims**, that an **"aggregation of match rule sets of providers"** are used to better match one or more user needs, interests, or requirements **for <u>value chain</u> participants**. Further, it should be equally clear that specifying or otherwise defining sets of "rules" or "rights" for controlling matches for value chain participants, as disclosed and claimed by the **Shear** patent reference has nothing whatsoever to do with the Appellant's claimed progressive comparison of individual interests, as described above, and as clearly claimed. Therefore, as further discussed below, the **Shear** patent reference fails to provide support for the rejections for which it is offered. Further, in view of the preceding discussion, the Appellant believes that the **Shear** patent reference has been improperly characterized by the Final Office Action.

Further, with respect to the rejection of claim 1, the Appellants respectfully suggest that the Final Office Action has also improperly characterized portions of the **Hilsenrath** reference. In particular, as noted above, the Final Office Action cites the **Hilsenrath** reference as teaching "that the process of matching entries is carried out until the desired number is obtained (column 11)." This argument is offered to counter the Appellant's previously presented argument (provided in the Request for Reconsideration filed in response to the Final Office Action, the subject matter of which is incorporated herein by this reference) that **Hilsenrath** failed to disclose the Appellant's claimed "partial disclosure."

The Appellant's fully agree that column 11 of the **Hilsenrath** teaches that **the process of matching entries** is carried out **until the desired number of matches** is obtained as explained by the Examiner. However, this is **not** what is described and claimed by the Appellant. In fact, it appears clear **Hilsenrath** provides for a plurality of

search criteria (e.g., "search strings") which are sequentially executed *until a desired number of matches of unique documents containing the words in the separate search strings have been returned* (see col. 11, lines 5-63).

In contrast, the Appellant is describing and claiming a *progressive comparison* of individual interests which involves a progressive *partial disclosure* of specific interests. Again, this partial disclosure is *not* a disclosure of some set or subsets of interests, but a partial disclosure of individual interests. For example, as previously explained by the Appellant, *partially disclosing interests* is clearly described throughout the text of the specification, with specific examples of such partial disclosure being provided in the working example in paragraphs [0065] through [0082]. Further, as described above with respect to the summary of claim 1, paragraphs [0079] thorough [0081] provide a simple example of a turn-based partial disclosure of interests wherein rather than disclosing a complete interest, each *individual interest* is disclosed and compared one part at a time.

Consequently, in stark contrast to the position advanced by the Final Office Action, the Appellant respectfully suggests that sequentially executing multiple search criteria until a predetermined number of documents have been identified has nothing whatsoever to do with the progressive comparison of interests described and claimed by the Appellant. Thus, *Hilsenrath* fails to provide support for the arguments for which it is offered. Therefore, as further discussed below, with respect to the rejection of claim 1 under 35 U.S.C. §103(a), the *Hilsenrath* reference fails to provide support for the rejections for which it is offered. In fact, in view of the preceding discussion, the Appellant believes that the *Hilsenrath* reference has been improperly characterized by the Final Office Action.

Next, in response to the Appellant's discussion with respect to the failure of either *Shear* or *Hilsenrath* to teach, or in any way describe, the Appellant's claimed element relating to partial disclosure of information, the Final Office Action suggests that "Shear discloses utilizing controls and rules with regards to distribution of content or matching

interest in a VDE environment, wherein delivery of only portions of content from one or more sources is provided (col. 27, lines 8-9, columns 23-30)."

In particular, the Final Office Action suggests that "Shear discloses utilizing controls and rules with regards to distribution of content or matching interest in a VDE environment, wherein delivery of only portions of content from one or more sources is provided (col. 27, lines 8-9, columns 23-30)."

However, in col. 27, lines 27, lines 8-9, **Shear** merely explains that one of the numerous "Advantages" of the **Shear** invention is the capability to provide "delivery of portions of said **control information** from one or more sources." (emphasis added). Clearly, **Shear** is attempting to explain that the "**control information**" used in determining matches can be received from a plurality of sources.

Further, the VDE is specifically described by **Shear** in col. 23, lines 9-11 as a "virtual distribution environment" which simply provides "a family of technologies by which applications can be created, modified, and/or reused." The ability of the **Shear** reference to retrieve "*portions*" of its "*control information*" from various sources for modifying how the "virtual distribution environment" will determine matches has nothing whatsoever to do with the partial disclosure disclosed and claimed by the Appellant. In fact, it appears that the only possible connection between the text cited by the Final Office Action and the Appellant's claimed element is the use of the word "portion" as it may relate in some purely theoretical sense to the word "partial."

Again, it should be clear that retrieving "portions" of "control information" from various sources is not a partial disclosure of individual specific interests. Further, the use of portions of control information from various sources for use in a VDE fails completely to disclose the Appellant's claimed turn-based "***partial disclosure***" and comparison of interests in each set of interests which is designed to avoid full disclosure of any non-shared interest between any two or more unique entities. There is simply no commonality, and no support in the **Shear** reference for the position advanced by the

Final Office Action. Therefore, as further discussed below with respect to the rejection of claim 1 under 35 U.S.C. §103(a), the *Shear* reference fails to provide support for the rejections for which it is offered. Further, in view of the preceding discussion, the Appellant believes that the *Shear* reference has been improperly characterized by the Final Office Action.

As noted above with respect to the response of the Final Office Action to the Appellant's prior arguments, the "***progressive comparison***" described and claimed by the Appellant in claim 1 involves a ***partial disclosure*** and comparison of parts of interests in each set of interests which is designed to avoid full disclosure of any non-shared interest between sets of interests. *Shear* simply fails to disclose, or in any way suggest any such feature.

For example, the Final Office Action cites *Shear* column 14, lines 12-26; figures 16A-16C and associated text, and column 8, line 26 through column 30, line 50, as disclosing the Appellant's claimed "progressive comparison."

However, the text cited by the Final Office Action generally discloses methods for using rights management information in a matching, narrowcasting, classifying and/or selecting process. Further, the matching and classification utility system described by *Shear* makes use of pre-existing classification schemes, including at least some rights management information and/or other qualitative and/or parameter data indicating and/or defining classes, classification systems, class hierarchies, category schemes, class assignments, category assignments, and/or class membership. (See Abstract).

Further, as illustrated by Figures 5-16C, *Shear* discloses that the "matching and classification" is provided via the use of an "***electronic matchmaker***" or "***matching classification system***" which is used to determine whether one or more items from different groups or classes match. For example, as described in col. 9, line 45 through column 14, line 29, and col. 33, line 48 through col. 81, line 6, *Shear* generally explains that the "matching and classification utility system 900" includes a "matching engine

906" which "matches things with other things, things with people, and/or people with other people." However, this matching is generally accomplished using a "secure environment" or a "secure node" for determining whether matches exist.

In other words, **Shear** generally describes a system wherein one or more parties or entities **completely discloses** particular pieces of information to an "electronic matchmaker" which resides in a "protected processing environment," "secure node," "secure container," etc., wherein the "electronic matchmaker" operates to compare those particular pieces of information to particular pieces of information provided by one or more other parties or entities. Then for each party, the electronic matchmaker proceeds to inform each of the parties which of the particular pieces of information match those of any other party. Further, because the "electronic matchmaker" operates in the "secure" computing environment, particular non-matching pieces of information provided by each entity are not disclosed to other entities outside of the secure computing environment.

Unfortunately, this method requires the use of one or more trusted computing environments (i.e., electronic chips, "secure containers," "secure nodes," etc.) for operation to which each entity **completely discloses** particular pieces of information. For example, as described in col. 12, lines 1-19, "the electronic matchmaker can employ a protected processing environment 154 [such as] ...a tamper-resistant 'chip' within the computer -- but it can be hardware-based, software-based, or a combination of hardware and software..." In other words, the "electronic matchmaker" operates as a type of secure "trusted agent" for determining whether particular items of information match between any particular entities. Information is then completely disclosed to the "electronic matchmaker" and matches are then reported back to each entity by the "electronic matchmaker."

However, as described in paragraph [0010] of the Appellant's specification, one of the **stated advantages** of the Appellant's claimed invention is that "**unlike conventional schemes** for disclosing or sharing common interests, such disclosure or

non-disclosure of interests is accomplished in accordance with the present invention *without the use of a third party, mediation, or trusted agent type application or process for comparing shared or common interests*. Consequently, in accordance with the present invention, *there is no database, application, process, etc. that is external to any entity to which the interests of that entity is disclosed or revealed for the purposes of determining whether any of the entities interests match those of any other entity*." (emphasis added)

Further, as described throughout the Appellant's specification, the matching of shared interests without the use of "trusted agent" type applications (such as the "electronic matchmaker" described by *Shear*) is accomplished through the use of direct progressive comparisons based on the partial disclosures of particular interests between each set of interests of entity directly. Further, as described above with respect to the working example illustrated in paragraphs [0079] through [0081] of the specification, this progressive comparison, in combination with the other elements of the Appellant's claimed invention operates to directly disclose only those interests of one set that match interests in another set by using the claimed progressive comparisons *without the use of a third party trusted agent type application*, as with the "electronic matchmaker" described by *Shear*.

Consequently, it should be clear that the progressive comparison of partially disclosed interests, which is one feature of claim 1, is not taught, disclosed, or in any way suggested by *Shear*. Therefore, as this claimed feature is not taught, disclosed, or in any way suggested by *Shear*, it should also be clear that further operations involving the claimed progressive comparison are also not taught, disclosed, or in any way suggested by *Shear*. For example, for the reasons described above, *Shear* also fails to disclose "*analyzing the results of the progressive comparison...*", "*terminating the progressive comparison for specific interests... wherein the specific interests do not partially match any interests*", and "*continuing the progressive comparison for specific interests... wherein the specific interests do partially match any interests*." Further, such progressive comparisons are also not disclosed by the

Hilsenrath reference, and in fact, the Final Office Action does not suggest that ***Hilsenrath*** discloses such a capability. (As described by the Examiner in the Final Office Action, ***Hilsenrath*** teaches a "cluster generation and cluster similarity measurement to achieve a more accurate search result or comparison match").

Consequently, no prima facie case of obviousness has been established in accordance with MPEP Section 706.02(j) and in accordance with the holdings of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claim is patentable under 35 U.S.C. §103(a). The basis for this patentability is the nonobvious language of independent claim 1, which includes the following novel language:

"A system for determining shared interests between at least two sets of interests, comprising:

progressively comparing each interest in each set of interests to interests in every other set of interests;

analyzing the results of the progressive comparison for determining whether any interests belonging to any set of interests ***partially matches any interests in any other set of interests***;

terminating the progressive comparison for specific interests with respect to each set of interests ***wherein the specific interests do not partially match any interests***;

continuing the progressive comparison for specific interests with respect to each set of interests ***wherein the specific interests do partially match any interests***; and

determining all shared interests between any of the at least two sets of interests by continuing the progressive comparison of interests to identify all interests belonging any set of interests that completely match interests in any other set of interests." (emphasis added)

Therefore, the Appellant respectfully traverses the rejection of independent claim 1, and thus the rejection of dependent claims 2-9 under 35 U.S.C. §103(a) over **Shear** in view of **Hilsenrath** in view of the non-obviousness of independent claim 1. Thus, the Appellant respectfully requests reversal of the rejection of claims 1-9 in view of the non-obviousness of claim 1.

b.   Rejection of Claims 10-16 under 35 U.S.C. §103(a):

Independent claim 10 was rejected under 35 U.S.C. §103(a) based on the rationale that **Shear** discloses the elements of claim 10 with the exception of "continuing to automatically perform the partial comparison of each encoded interest for specific interests for as long as there is a partial match of the specific interests." The Final Office Action then suggests that this claimed element is disclosed by **Hilsenrath**. The Final Office Action then rejects each of dependent claims, e.g., claims 11-16 based on the proposed **Shear / Hilsenrath** combination. Further, the rationale presented in the Final Office Action with respect to the rejection of claim 10 is similar to that provided for the rejection of claim 1. Consequently, the discussion provided above with respect to the rejection of claim 1 is incorporated herein by reference.

In particular, with respect to independent claim 10, the Final Office Action suggests that **Shear** "teaches... partially disclosing each encoded interest in each set of interests to each unique entity." The Final Office Action offers col. 27 of the **Shear** reference in support of this contention.

However, as discussed above with respect to the rejection of claim 1, and in particular with respect to the response of the Final Office Action to the Appellant's prior arguments relating to the rejection of claim 1, the progressive comparison described and claimed by the Appellant involves a "**partial disclosure**" and comparison of interests which is designed to avoid full disclosure of any non-shared interest between any two or more unique entities. As discussed above with respect to the rejection of claim 1, **Shear** simply fails to disclose, or in any way suggest any such feature.

Further, it should be noted that col. 27 of the **Shear** reference, offered as support for the contention that **Shear** teaches "partially disclosing each encoded interest in each set of interests to each unique entity" simply provides a recitation of specific examples of how the invention described by **Shear** may be used. None of these specific examples offered in col. 27 of the **Shear** reference teaches, describes, or in any suggests, "**partially disclosing**" or "**partially revealing**" **interests directly between two or more entities**, as is claimed by the Appellant in independent claim 10.

Further, as specifically discussed above, the Final Office Action suggests that "Shear discloses utilizing controls and rules with regards to distribution of content or matching interest in **a VDE environment**, wherein delivery of only **portions of content** from one or more sources is provided (col. 27, lines 8-9, columns 23-30)." (emphasis added).

However, in col. 27, lines 27, lines 8-9, **Shear** merely explains that one of the numerous "Advantages" of the **Shear** invention is the capability to provide "delivery of **portions of said control information** from one or more sources." (emphasis added). Clearly, **Shear** is attempting to explain that the "**control information**" used by the VDE in determining matches can be received from a plurality of sources.

Specifically, as noted above, the VDE is described by **Shear** in col. 23, lines 9-11 as a "*virtual distribution environment*" which provides "a family of technologies by which applications can be created, modified, and/or reused." The ability of the **Shear** reference to retrieve "**portions**" of its "**control information**" from various sources for modifying how the "virtual distribution environment" will determine matches has nothing whatsoever to do with the partial disclosure disclosed and claimed by the Appellant.

Consequently, no prima facie case of obviousness has been established in accordance with MPEP Section 706.02(j) and in accordance with the holdings of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claim is patentable under 35 U.S.C. §103(a). The basis for this patentability is the nonobvious

language of independent claim 10. In particular, independent claim 10 includes the following novel language:

> "A computer-implemented process for automatically determining whether unique entities have any matched interests without disclosing non-matched interests, comprising:
>
> providing a set of interests for each entity;
>
> encoding each interest for each set of interests;
>
> ***partially disclosing** each encoded interest in each set of interests to each unique entity;*
>
> automatically performing a comparison of each partially disclosed encoded interest with the partially disclosed interests in each other set of interests;
>
> determining whether there is a partial match of interests between the partially disclosed interests of any unique entities;
>
> ***continuing to automatically perform the partial comparison of each encoded interest for specific interests for as long as there is a partial match** of the specific interests between any unique entities;* and
>
> automatically identifying interest matches between any unique entities through the continued automatic partial comparison of each encoded interest." (emphasis added)

Therefore, the Appellant respectfully traverses the rejection of independent claim 10, and thus the rejection of dependent claims 11-16, under 35 U.S.C. §103(a) over ***Shear*** in view of ***Hilsenrath*** in view of the non-obviousness of claim 10. Thus, the Appellant respectfully requests reversal of the rejection of claims 10-16 in view of the non-obviousness of claim 10.

c.   <u>Rejection of Claims 17-23 under 35 U.S.C. §103(a):</u>

Independent claim 17 was rejected under 35 U.S.C. §103(a) on the same basis as provided for the rejection of claim 10. Specifically, claim 17 was rejected based on the rationale that *Shear* discloses the elements of claim 17 with the exception of "continuing to automatically perform the partial comparison of each encoded interest for specific interests for as long as there is a partial match of the specific interests." The Final Office Action then suggests that this feature is disclosed by *Hilsenrath*. The Final Office Action then rejects each of dependent claims, e.g., claims 18-23 based on the proposed *Shear / Hilsenrath* combination. Further, the rationale presented in the Final Office Action with respect to the rejection of claim 17 is similar to that provided for the rejection of claim 1. Consequently, the discussion provided above with respect to the rejection of claim 1 is incorporated herein by reference.

In particular, with respect to independent claim 17, the Final Office Action suggests that *Shear* "teaches… partially disclosing each encoded interest in each set of interests to each unique entity." The Final Office Action offers col. 27 of the *Shear* reference in support of this contention.

However, as discussed above with respect to the rejection of claim 1, and in particular with respect to the response of the Final Office Action to the Appellant's prior arguments relating to the rejection of claim 1, the progressive comparison described and claimed by the Appellant involves a *"partial disclosure"* and comparison of interests which is designed to avoid full disclosure of any non-shared interest between any two or more unique entities. As discussed above with respect to the rejection of claim 1, *Shear* simply fails to disclose, or in any way suggest any such feature.

Further, it should be noted that col. 27 of the *Shear* reference, offered as support for the contention that *Shear* teaches "partially disclosing each encoded interest in each set of interests to each unique entity" simply provides a recitation of specific examples of how the invention described by *Shear* may be used. None of these specific

examples offered in col. 27 of the *Shear* reference teaches, describes, or in any suggests, "*partially disclosing*" or "*partially revealing*" *interests directly between two or more entities*, as is claimed by the Appellant in independent claim 10.

Further, as specifically discussed above, the Final Office Action suggests that "Shear discloses utilizing controls and rules with regards to distribution of content or matching interest in *a VDE environment*, wherein delivery of only *portions of content* from one or more sources is provided (col. 27, lines 8-9, columns 23-30)." (emphasis added).

However, in col. 27, lines 27, lines 8-9, *Shear* merely explains that one of the numerous "Advantages" of the *Shear* invention is the capability to provide "delivery of *portions of said control information* from one or more sources." (emphasis added). Clearly, *Shear* is attempting to explain that the "*control information*" used by the VDE in determining matches can be received from a plurality of sources.

Specifically, as noted above, the VDE is described by *Shear* in col. 23, lines 9-11 as a "*virtual distribution environment*" which provides "a family of technologies by which applications can be created, modified, and/or reused." The ability of the *Shear* reference to retrieve "*portions*" of its "*control information*" from various sources for modifying how the "virtual distribution environment" will determine matches has nothing whatsoever to do with the partial revealing of interests, and comparing of the partially revealed interests disclosed and claimed by the Appellant.

Consequently, no prima facie case of obviousness has been established in accordance with MPEP Section 706.02(j) and in accordance with the holdings of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claim is patentable under 35 U.S.C. §103(a). The basis for this patentability is the nonobvious language of independent claim 17. In particular, independent claim 17 includes the following novel language:

> "A computer-readable medium having computer executable instructions for identifying common interests between at least two entities without using a third party, said computer executable instructions comprising:
>
> ***partially revealing** each interest of each entity to each other entity*;
>
> determining whether any of the partially revealed interests match any other partially revealed interests by comparing the partially revealed interests;
>
> ***continuing to partially reveal more of each partially matched interest of each entity to each other entity having a corresponding partially matched interest***;
>
> continuing to compare the partially matched interests; and
>
> automatically determining whether the partially matched interests are common interests." (emphasis added)

Therefore, the Appellant respectfully traverses the rejection of independent claim 17, and thus the rejection of dependent claims 18-23, under 35 U.S.C. §103(a) over **Shear** in view of **Hilsenrath** in view of the non-obviousness of claim 17. Thus, the Appellant respectfully requests reversal of the rejection of claims 17-23 in view of the non-obviousness of claim 17.

VIII. CLAIMS APPENDIX

The claims listed below provide a complete copy of all claims involved in the Appeal:

Claim 1 (Original). A system for determining shared interests between at least two sets of interests, comprising:

progressively comparing each interest in each set of interests to interests in every other set of interests;

analyzing the results of the progressive comparison for determining whether any interests belonging to any set of interests partially matches any interests in any other set of interests;

terminating the progressive comparison for specific interests with respect to each set of interests wherein the specific interests do not partially match any interests; continuing the progressive comparison for specific interests with respect to each set of interests wherein the specific interests do partially match any interests; and

determining all shared interests between any of the at least two sets of interests by continuing the progressive comparison of interests to identify all interests belonging any set of interests that completely match interests in any other set of interests.

Claim 2 (Original). The system of claim 1 wherein each set of interests is encoded using a one-way hash for preventing an identification of partially matched encoded interests.

Claim 3 (Original). The system of claim 1 wherein each interest in each set of interests is encrypted.

Claim 4 (Original). The system of claim 1 wherein each set of interests is identified by unique users.

Claim 5 (Original). The system of claim 1 wherein each set of interests is identified by unique users from a list of predefined interests.

Claim 6 (Original). The system of claim 1 further comprising determining whether specific interests are closely matched with any interests in any other set of interests after terminating the progressive comparison for specific interests which do not partially match any interests.

Claim 7 (Original). The system of claim 6 wherein interests are categorized in a hierarchical structure in order to facilitate the determination as to whether the specific interests are closely matched with any interests in any other set of interests.

Claim 8 (Original). The system of claim 1 wherein all shared interests are disclosed between sets of interests having the shared interests.

Claim 9 (Original). The system of claim 1 wherein progressively comparing each interest further comprises progressively transmitting each interest via at least one encrypted communications channel.

Claim 10 (Original). A computer-implemented process for automatically determining whether unique entities have any matched interests without disclosing non-matched interests, comprising:

    providing a set of interests for each entity;

    encoding each interest for each set of interests;

    partially disclosing each encoded interest in each set of interests to each unique entity;

    automatically performing a comparison of each partially disclosed encoded interest with the partially disclosed interests in each other set of interests;

    determining whether there is a partial match of interests between the partially disclosed interests of any unique entities;

    continuing to automatically perform the partial comparison of each encoded interest for specific interests for as long as there is a partial match of the specific interests between any unique entities; and

    automatically identifying interest matches between any unique entities through the continued automatic partial comparison of each encoded interest.

Claim 11 (Original). The computer-implemented process of claim 10 wherein encoding each interest comprises encoding each interest using a one-way hash.

Claim 12 (Original). The computer-implemented process of claim 10 wherein automatically identifying interest matches between any unique entities comprises identifying complete interest matches.

Claim 13 (Original). The computer-implemented process of claim 10 wherein automatically identifying interest matches between any unique entities comprises identifying close interest matches.

Claim 14 (Original). The computer-implemented process of claim 10 wherein partially disclosing each encoded interest in each set of interests to each unique entity comprises transmitting each partially discloses interest via at least one encrypted communications channel.

Claim 15 (Original). The computer-implemented process of claim 10 wherein encoding each interest for each set of interests comprises using a common encoding scheme for each set of interests.

Claim 16 (Original). The computer-implemented process of claim 15 wherein a new common encoding scheme is used each time new sets of interests are compared.

Claim 17 (Original). A computer-readable medium having computer executable instructions for identifying common interests between at least two entities without using a third party, said computer executable instructions comprising:

partially revealing each interest of each entity to each other entity;

determining whether any of the partially revealed interests match any other partially revealed interests by comparing the partially revealed interests;

continuing to partially reveal more of each partially matched interest of each entity to each other entity having a corresponding partially matched interest;

continuing to compare the partially matched interests;

and

automatically determining whether the partially matched interests are common interests.

Claim 18 (Original). The computer-readable medium of claim 17 wherein the common interests are exactly matched interests.

Claim 19 (Original). The computer-readable medium of claim 17 wherein the common interests are closely matched interests.

Claim 20 (Original). The computer-readable medium of claim 19 wherein a set of all possible interests is categorized in a hierarchical structure in order to determine whether the common interests are closely matched interests.

Claim 21 (Original). The computer-readable medium of claim 17 wherein each interest is encoded prior to partially revealing each interest of each entity to each other entity.

Claim 22 (Original). The computer-readable medium of claim 17 wherein each interest of each entity is partially revealed to each other entity via a secure communications channel.

Claim 23 (Original). The computer-readable medium of claim 22 wherein the secure communications channel is an encrypted communication channel.

IX.   **EVIDENCE APPENDIX**

The following six pages are submitted as evidence in support of the present Appeal Brief. In particular, the following evidence provides a summary of testimony that was presented by Mr. Victor H. Shear before the United States Senate Judiciary Committee on April 3, 2001, at a hearing entitled "Online Entertainment and Copyright Law: Coming Soon to a Digital Device Near You." In addition, this summary was published as a United States government publication available to the public via the official website of the U.S. Senate Judiciary Committee at the following address: http://judiciary.senate.gov/oldsite/te040301vs.htm. As discussed with respect to the rejection of claim 1, this testimony is provided to rebut the examiners interpretation of the term "value chains" with respect to the *Shear* patent reference.

Emund Fish

SUMMARY OF TESTIMONY BY VICTOR SHEAR, FOUNDER AND CEO, INTERTRUST TECHNOLOGIES CORPORATION,
BEFORE UNITED STATES SENATE JUDICIARY COMMITTEE
APRIL 3, 2001

InterTrust Technologies Corporation is the leading provider of Digital Rights Management (DRM) technologies, which in the field of copyright protection will secure four objectives: (i) give consumers new freedom to enjoy music and entertainment online; (ii) give copyright owners the means to manage and protect their rights in the works they create and publish; (iii) give effect to elements of law, such as copyright exceptions; and (iv) provide users with the means to manage legitimate personal rights and interests.

Until now, the ability of the creative community to enforce rights in their copyrighted works has never really caught up with the technologies enabling anybody to make and distribute unlawful digital copies. What has been urgently needed is a partnership between technology and law to provide a workable economic framework for the vital efforts of our musicians, writers, actors and artists, and to accommodate and satisfy the legitimate expectations of consumers – including limitations on exclusive rights to the extent they are sufficiently formulated. Sophisticated DRM technology now provides the mechanism to effect this partnership.

InterTrust's DRM technology is now capable of securely managing rights in copyrighted works in the context of peer-to-peer distribution, and can enable consumers to listen, record, and distribute music online without compromising the rights of artists, record labels, and other copyright owners. It also makes it possible for the creative community to offer consumers a limitless range of ways to enjoy music and entertainment: sale of downloads; subscriptions; pay-per-listen; superdistribution (consumer A delivering material to consumer B and so on); file sharing. It can do so because it associates the technical protection with the content regardless of the channel through or platform upon which it is exploited.

But effective DRM solutions require more than sophisticated technology. They also require credibility and trust. That is why InterTrust restricts itself to building a platform that supports third party businesses. It is not itself a distributor of copyrighted works; a builder of consumer applications such as electronic music players; or a credit card transaction processor. InterTrust's business role and model is that of a utility: it facilitates but strictly refrains from intruding into the business models and distribution channels for copyrighted works. InterTrust's function is not to dictate the arrangements for digital rights management, but to establish and maintain a platform to ensure the neutrality, security, commercial reliability, and trusted interoperability of services and software applications used for the protection and management of rights in digital information of all kinds, including online entertainment. It is fundamental to our vision that this trusted, neutral infrastructure is essential to the long-term effectiveness of DRM solutions, and to their acceptance by copyright owners, distributors, and consumers alike.

Ultimately, the reality of sophisticated DRM technology is about far more than Napster, online entertainment and copyright law. It is about constructing a civil digital society in the Internet Age, where rules created for or by its citizens can be implemented and respected wherever and whenever their

legitimate interests are in play. It is this simple proposition that InterTrust is making a reality.

On behalf of InterTrust, I wish to thank Senators Hatch, Leahy, Feinstein, Thurmond, and all the members of the Committee for the opportunity to testify this morning on the important issue of on-line entertainment and copyright law. I would like to tell the Committee about how InterTrust Technologies Corporation has developed Digital Rights Management technologies that in the field of copyright protection will secure four objectives:

give consumers new freedom to enjoy music and other forms of content,; give copyright owners and other value chain participants the means to manage and protect their rights in published works; give effect to elements of law, such as copyright exceptions, for ensuring that rights are managed in accordance with public interest; provide users with the means to manage their legitimate personal rights and interests.

InterTrust is the leading provider of peer-to-peer Digital Rights Management (DRM) technology. This technology ensures the neutrality, security, commercial reliability, and trusted interoperability of applications and services used to protect and manage rights in all forms of information, including the creative works under consideration here. Our enterprise is focused on the rapidly evolving area of digital commerce in information; our aim is to provide a framework of commercial trust comparable in scope, and at least as reliable, as the systems of trust that underpin commerce in the physical world.

The focus of this Committee extends beyond a simple re-examination of the particulars of the Napster case to the broader questions it raises. I respectfully submit that, from that perspective, InterTrust has a particularly valuable contribution to make. Given our unique position in the DRM arena, we believe we can assist the Committee in considering the complex issues before it.

Background on InterTrust Technologies Corporation

I founded InterTrust in January 1990. The goal was to provide solutions to many of the complexities involved in realizing the full potential of electronic commerce. It seemed clear that digital commerce would require mechanisms enabling the dynamics of traditional commerce to be seamlessly translated into the electronic world. My associates and I coined the expression Digital Rights Management to describe the requisite mechanisms. In effect, we were looking towards a world in which, where and as appropriate, commerce could be digitally "virtualized". Over the last 10 years, InterTrust has developed the concept of Digital Rights Management ("DRM") and has grown from myself and a handful of researchers to a fully-fledged commercial enterprise employing more than 350 people worldwide. Approximately $340 million of working capital has been provided to InterTrust by its investors, and all of this capital is dedicated to the creation of a digital rights management framework for digital commerce and participant conduct.

The impact of the Internet has meant that the initial and most visible applications of InterTrust's technology have been for digital music, video, and publishing. Literally any digital information that is shared or stored will ultimately be implicated, however. This includes, for example, medical records, enterprise workflow, financial interactions, and the policy management of any stored or communicated information – policies ranging from privacy rights to enforcing government regulations to reliably automating commercial interests.

As concerns electronic distribution of entertainment products and services, InterTrust has been a very active member of the Secure Digital Music Initiative (SDMI) since its inception, and its employees have chaired SDMI's Portable Device Working Group and its Screening Group. We played the role of primary developer of the Intellectual Property Management Protocol (IPMP), which became an MPEG-4 standard for electronic devices. We have strategic alliances and partnerships with a number of major enterprises including Adobe, AOL, Bertelsmann, Blockbuster, Compaq, Diamond Rio, Enron, Mitsubishi, Nokia, Philips, Samsung, Texas Instruments, Universal Music and numerous others. They

are all actively working with InterTrust DRM technology to further the enjoyment of music, video, published text and other information products on PCs, portable music players, cable systems and mobile phones. InterTrust works with these and other companies to help establish standards, and, through InterTrust's MetaTrust Utility, to help ensure that consumers and commercial organizations can enjoy a consistent degree of reliability, integrity, and interoperability when they expose their interests through digital interaction. We pride ourselves on working with individuals and companies, large and small, that have interests in, or rights related to, digital information that need rights management.

Online Entertainment and Digital Rights Management

Great creators are normally great communicators, their individual voices collectively embodying and expressing the values and passions of their culture. Using digital technology expedites the accurate dissemination and reception of creators' works and, when employed in the proper context, digital technology can also support the universe of rights associated with most creative works – the rights of creators, value chain members, users, and societal organizations. Although digital technology can greatly enhance the communication of creators' works, unless it is properly employed, its use creates severe problems. Digital technology, when improperly used, can deny content creators and their successors the commercially essential return for labor and right to manage and exploit property. The improper use of digital technology – when employed as a vehicle for the unfettered purloining of copyrighted content – directly undermines the basic building blocks of modern society, the respect for the rights of others, as well as proper return for one's creative output and labor. Moreover, such improper use directly suborns the stable economic basis necessary for further development of art.

Ultimately society loses out as the basic "glue" of commerce and democracy, the civil interaction between multi-party rights and interests and the maintenance of a market for goods and services, is undermined in the service of convenience and self-interest. At times it appears there's a call to revolt, "free the content," when such a call – if extended beyond fair use -- obscures the real issues and would seek to legitimize people taking for free whatever they want. Others' rights be damned!

Although the impetus for this hearing may be "file-sharing" and the recent Court of Appeals decision affecting it, it is not just about Napster. It is about the changes that digital technology is bringing to the worlds of art, entertainment and information. It is also about the kind of society that electronic communities and digital technology, used in concert with copyright law, can create. Many people are just now beginning to realize how profound those changes and possibilities are. In under two years and with very little in the way of direct investment, an electronic community of some 60 Napster million file sharers was created. Ordinary consumers used the Napster system to obtain unauthorized copies of copyrighted music without payment when most of them, at least previously, would never have considered buying pirated CDs in the physical world. Other communities are springing up worldwide where individuals communicate electronically and eschew any reference to traditional principles of commerce and property rights.

The Digital Millennium Copyright Act, which this Committee was instrumental in enacting, was the first in the world to tackle the challenges of digital technology. Yet for all its thoroughness, we are probably even now past the point where we could claim that copyright law alone is sufficient to establish adequate mechanisms for the protection and management of rights in creative works (though it is essential that legislators continue to develop the body of digital copyright laws and regulation). Despite shorter revision cycles for law, the ability of the creative community to enforce the rights in their works has never really caught up with the technologies enabling anybody to make and distribute unlawful digital copies. The situation is now being considered by some leading academics as one in which copyright law may in practice become virtually irrelevant.

Society simply cannot afford to accept copyright law becoming irrelevant. And we cannot afford to set the extraordinary example of dispensing with the rights of content providers because we are unwilling to develop a framework for proper commercial and civil behavior. There is therefore an urgent need for a

partnership between technology and law that effectively maintains the underlying commercial and social principles of modern free society. With respect to online entertainment the partnership must provide a workable framework for the efforts of our musicians, writers, actors and artists. We need a partnership between government and content commerce participants that accommodates and satisfies the legitimate expectations of American citizens – including any limitations on exclusive rights appropriate for an intelligent public policy.

Sophisticated DRM technology such as InterTrust's can provide the mechanism to help effect this partnership. While technical complexities and challenges abound, the mission is achievable: to provide a combination of technical mechanisms and social compacts that allow the transfer of the basic features of traditional commerce into the digital market place. The means to achieve this goal are now at hand, and the means to continue developing a flexible, free, and safe commercial digital environment, are readily accessible. There are, of course, new and complex commercial, economic and social issues to be addressed. But this cannot deflect us from the simple, basic responsibility that we all have, to not settle for over-simplifications that result in distorting, unfair, and socially and commercially flawed solutions. Rather, we must strive to allow the digital world to live up to the principles most all of us believe are the minimum standards we would demand in the traditional, non-digital world.

The basic principles of granting rights to creators to control the use of their work and of maintaining trusted systems for commerce remain as valid as ever. We should not ignore the opportunities as they arise of reviewing current copyright limitations and other accommodations that were made before the advent of effective digital rights management to ensure they continue to serve these principles. We should also be ready to reshape these limitations, where necessary, to fit the emerging digital marketplace. Above all we should be driven by a simple principle: to maintain a free and effective commercial society that, in a balanced fashion, supports the rights of all participants.

Digital Rights Management Technology

It is important to understand from the outset that when talking about DRM technology we are not referring to simple mechanisms that, say, carry protected material from a server to a client in return for a payment, locking the material to a single device. Such a proposition offers nowhere near the degree of flexibility and coverage necessary to support either traditional or new business offerings. Post delivery, persistent protection of commercial interests, flexibility in use of content across devices and locations, and flexible interaction with content, are all priorities for content value chain participants. In the context of music as it relates to Napster, users want to play music on-line or off-line, and they want the right and ability to combine music into play-lists that are used to create a specific personal or group music experience, for use wherever and whenever they wish.

The technology system that InterTrust has developed protects content, in the instance of this discussion music, on a persistent basis throughout its commercial lifecycle. It does this by binding rules governing content use with governed content. This tamper resistant association persists regardless of the channel through or platform upon which the music is played, and the number of handlers of the content, the duration of time, or the physical location of the content. InterTrust technology creates a zone – independent of time, place, or device -- where music is governed by technology and where rights-holders, including consumers, are free to express and protect their rights through the freedom to establish differing rules reflecting their individual interests.

Within this technical protection zone, digital information such as music can be offered to consumers via a virtually limitless range of models: sale of downloads; subscriptions; pay-per-listen; superdistribution (consumer A delivering material to consumer B and so on); and file sharing. This freedom is also available for the implementation of a richly diverse range of policies that govern usage, and any consequences of usage, in relation to groups of any nature, such as special interest groups. To accommodate statutory limitations on copyright, special consumption rules can be created, either through law or through accepted practice of rights-holders, for particular consumers or classes of users:

for schools and universities; for libraries and archival institutions; and for consumers with special needs such as the blind. Whatever the needs, whatever the relationship between different participants the digital information remains persistently protected while freely available according to agreed rules of use.

If this protection is to remain effective throughout the lifecycle of the content then it follows that it must be possible to change the rules relating to use. Material can have a succession of different owners. It can change in value; it can be traded for different purposes; it can be used on multiple, different devices; and it can be loaned to other parties. Our system anticipates and accommodates all these possibilities. In our system, digital information and the rules governing its use by a particular user can exist and move independently of each other, coming together to give effect to the agreement between supplier, distributor, and consumer, and respecting whatever rules may be applied by government, or, for example, by financial institutions.

An efficient system of protection must not only accommodate a wide variety of business offerings. It must also support the complex value chains through which many of the offerings are delivered. The architecture InterTrust has developed supports value chain relationships based on traditional commercial principles – we call this digital enabling of value chains "chain of handling and control". This means that each actor in the value chain is able to create the rules it wishes to apply to the material in question within the scope of authority granted to the participant by the previous or governing actors in the value chain. A publisher could establish the commercial terms for a work within the authority granted by the author; the distributor could then set rules within the scope of authority granted by the publisher and so on through the value chain, all in accordance with law and accepted practice.

Requirements of Digital Rights Management

We believe there are a number of precedent requirements for effective digital rights management of content. First, it must provide creators of digital information the ability to manage and protect their rights throughout content lifecycles and however content may be exploited. This means that a DRM system must be secure and resilient to tampering, and certain elements of the protection system must accompany the copy of the work as it is passed from party to party, format to format, platform to platform.

Second, it must support commercial flexibility so that it can accommodate the arrangements struck between copyright owners, their customers, distributors, retailers and other value-adding participants. This means that a rights management system must provide content creators and/or publishers the means to allow consumers choices appropriate to the commercial circumstance. Consumers must be able to enjoy copyrighted works, and the system must permit consumer arrangements to vary based on the terms agreed to by the content commerce participants.

Third, it must provide a neutral and trusted environment in which technology assures these agreed upon arrangements. The rights management technology must be unimpeachably neutral, that is it may not in any way subtly or secretly advantage any hidden interests, and further, it is essential that the rights management technology not advantage any out-of-context interests of the rights management technology provider. Consequently, for example, neither a rights holder, nor a consumer, nor the rights technology provider should be able to alter or tamper with any agreed upon commercial arrangements once agreed or impede the expression of a parties' rights or interest.

Unless a rights management system meets these requirements -- that is, unless the trust system is itself unimpeachably trustable-- it will fail to satisfy the legitimate interests of businesses, consumers, and government. Further, unless a rights management system is able to maintain its trust attributes regardless of the underlying digital commerce platform, device, or application, it will fail one of two tests. Either the system will (A) lack reliability in protecting participant rights, since a loosely coupled array of rights systems, without a unifying maintained rights environment, will readily succumb to hackers; or the system will (B) lack interoperability, and consumers and commercial participants alike will lose the

convenience and efficiency essential to content commerce, and risk having their interests suborned to the interests of a party controlling a narrow, proprietary environment.

In the domain of music, InterTrust DRM technology is now capable of permitting consumers to listen, record, and distribute music online in ways that do not compromise the rights of artists, record labels, and other copyright owners. It is capable of managing the rights in copyrighted works in a secure manner in the context of peer-to-peer distribution. Its technology supports the ongoing effort of Digital World Services (DWS), a Bertelsmann subsidiary, and the Universal Music Group, as well as many other interests both large and small, enabling them to implement new business models for the distribution of music on-line. A leading international music group, Daft Punk, for example, recently accompanied the release of its latest album with a novel application of InterTrust technology. The band is encouraging traditional retail relationships and creating digital economy value for its fans by enabling those fans who have purchased the CD to access the group's web site and to download additional music – at no further cost, but protected with InterTrust DRM.

Effective DRM solutions require more than sophisticated technology. They also require credibility and trust. That is why InterTrust restricts itself to building a platform that supports third party businesses. It is not itself a distributor of copyrighted works; a builder of commercial consumer applications, such as electronic music players; or a credit card transaction processor. InterTrust's MetaTrust Utility, the core of InterTrust's business interests, functions as a utility. It facilitates -- but refrains from intruding into -- the business models and distribution channels for copyrighted works. Its function is not to dictate the arrangements for digital rights management, but to establish and maintain a platform that ensures the neutrality, security, commercial reliability, and trusted interoperability of services, software applications, and devices used for the protection and management of rights in digital information of all kinds. A trusted, neutral infrastructure is essential to the long-term effectiveness of DRM solutions, and to their acceptance by copyright owners, distributors, and consumers alike.

Conclusion

DRM technologies should give consumers new options for legitimately acquiring and enjoying music and other forms of online entertainment, while ensuring that copyright owners and other commercial participants have the means to manage and protect their rights. Enabling peer-to-peer distribution of music and other copyrighted works without compromising copyright is an obvious example. In our view, sophisticated DRM solutions must support the fundamental principle of any effective copyright system: that of striking the correct balance between protecting the rights and interests of copyright owners while promoting the interests of the wider community and facilitating the efficient and flexible dissemination of, and greater access to, music and other copyrighted works.

Ultimately, the reality of sophisticated DRM technology is about far more than Napster, online entertainment and copyright law. Policy makers, consumers, and business globally will come to realize that the "Napster issue" isn't just about music and the Internet. It is about constructing a civil digital society in the Internet Age, where rules created for and by its citizens can be implemented and respected wherever and whenever legitimate interests are in play. It is this simple proposition that InterTrust is helping to make a reality.

In closing, InterTrust once again thanks the Committee for the opportunity to present testimony on this important issue, and looks forward to working with members of the Committee as they consider the important issues related to online entertainment and copyright.

X.   RELATED PROCEEDINGS APPENDIX

None

Respectfully submitted,

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